

Amendments to the Specification

Please replace the paragraph bridging pages 2-3 with the following amended paragraph:

Transformation of cotton: *Agrobacterium*-mediated cotton transformation was first reported a decade ago with hypocotyl and cotyledon as explants (~~Firoozababy~~ Firoozabady et al., 1987; Umbeck et al., 1987). Several useful genes have been introduced into cotton via *Agrobacterium*-mediated transformation, including insect and herbicide resistance genes (Perlak et al., 1990; Trolinder et al., 1991; Chen et al., 1994). Explants (such as hypocotyl, cotyledon, callus generated from hypocotyl and cotyledon, as well as immature embryos) have been used for *Agrobacterium*-mediated transformation and particle bombardment (de Framond et al., 1983; Finer & McMullen, 1990; Firoozabady et al., 1987; Perlak et al., 1990; Rangan & Rajasekaran, 1996; Rajasekaran et al., 1996; Trolinder et al., 1991; Umbeck et al., 1987, 1989, 1992). In addition, meristematic tissue of excised embryonic axes has also been used for cotton transformation by particle bombardment (Chlan et al., 1995; John, 1996; John & Keller, 1996; McCabe & Martinell, 1993). Zhou et al. (1983) transformed cotton by injecting DNA into the axile placenta one day after self-pollination.

Please replace the paragraph bridging pages 3-4 with the following amended paragraph:

However, the transformation rates were generally low, ranging from 20 to 30% when hypocotyl were used as explant (~~Firoozababy~~ Firoozabady et al., 1987; Cousins et al., 1991; Rajasekaran et al., 1996). A significantly higher transformation efficiency, up to 80%, was reported when cotyledon was used as explant and the ocs gene encoding octopine synthetase used as the reporter gene (~~Firoozababy~~ Firoozabady et al., 1987). However, the validity of octopine as a marker for transformation is questionable because octopine has been found in several plant species certainly not transformed by infection with *A. tumefaciens* (Wendt-Gallitelli and Dobrigkeit, 1973). A more recent report indicated that the transformation efficiency of cotyledon was about 20 to 30% (Cousins et al., 1991). The transformation efficiency was even lower when particle bombardment method was used (Keller et al., 1997). A difference in the type of explants used for transformation could have a significant effect on the efficiency of transformation and regeneration. It has been reported, for example, that for reducing false positive transformants, cotyledon was a better explant than hypocotyledon (Firoozabady et al., 1987).

Please replace paragraph 1 on page 4 with the following amended paragraph:

Cotton transformation also is highly dependent on genotype (Trolinder, 1985a, 1986; Trolinder & Goodin, 1987, 1988a, 1988b; Trolinder & Chen, 1989). Apart from a few cultivars which are regenerable and transformable, such as *Gossypium hirsutum* cv. Coker 312 and *G. hirsutum* Jin 7, most other important elite commercial cultivars, such as *G. hirsutum* cv. D&P 5415 and *G. hirsutum* cv. Zhongmian 12, are not ~~regeneratable~~ regenerable and transformable by these methods. The absence of a high-efficiency plant regeneration method has been regarded as a major obstacle to the application of *Agrobacterium*-mediated transformation to cotton (Gawel et al., 1986; Firoozabady et al., 1987).

Please replace paragraph 3 of page 13 with the following amended paragraph:

(7) Young plant growing medium

S&H medium Macro and Micro elements (~~Stewart~~ Stewart and
Hsu, 1977)

Please replace paragraph 7 of page 20 with the following amended paragraph:

~~Firoozababy~~ Firoozabady E., DeBoer D.L., Merlo D.J., Halls E.J.,

Anderson L.N., Raska K.A., Murray E.E. 1987.

Transformation of cotton, *Gossypium hirsutum* L. by

Agrobacterium tumefaciens and regeneration of transgenic

plants. *Plant Molecular Biology* 10, 105 1 16.

Please replace paragraphs 7-8 of page 22 with the following amended paragraph:

Schilperoort, R.A., Hoekema, A., Hooykaas, P.J.J.

1990. Process for the incorporation of foreign DNA into the genome of ~~dicotyledmous~~ dicotyledonous plants. U.S. Patent No. 4,940,838.

Schilperoort, R.A., Hoekema, A., 1995. Process for the incorporation of foreign DNA into the genome of ~~dicotyledmous~~ dicotyledonous plants. U.S. Patent No. 5,464,763.

Please replace paragraph 2 of page 23 with the following amended paragraph:

Stewart, J. M.D. and Hsu, C. L. 1978. Hybridization of
~~depl~~**oid** **diploid** and tetraploid cottons through in-ovulo
embryo culture. J. ~~Heridity~~ **Heredity** 69, 404-8.

Please replace paragraph 3 of page 24 with the following amended paragraph:

Walkerpeach, C.R. and Veltern, J. 1994. *Agrobacterium*-
mediated gene transfer to plant cells: cointegrate and
binary vector systems. Plant Mol. Biol. ~~Manuel~~ Manual B1,
1-19.